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(54) Title: SUBSTRATE HOLDING MECHANISM, SUBSTRATE POLISHING APPARATUS AND SUBSTRATE POLISHING METHOD

(57) Abstract: A substrate holding mechanism, a substrate polishing apparatus and a substrate polishing method have functions capable of minimizing the amount of heat generated during polishing of a substrate to be polished and of effectively cooling the substrate holding part of the substrate holding mechanism and also capable of effectively preventing the polishing solution and polishing dust from adhering to the outer peripheral portion of the substrate holding part and drying out thereon. The substrate holding mechanism (top ring 1) has a mounting flange 2, a support member 6, and a retainer ring 3. A substrate W to be polished is held on the lower side of the support member 6 surrounded by the retainer ring 3, and the substrate W is pressed against a polishing surface. The mounting flange 2 is provided with a flow passage 26 contiguous with at least the retainer ring 3. A temperature-controlled gas is supplied through the flow passage 26 to cool the mounting flange 2, the support member 6 and the retainer ring 3. The retainer ring 3 is provided with a plurality of through-holes 3a communicating with the flow passage 26 to spray the gas flowing through the flow passage 26 onto the polishing surface of a polishing table.